# Conclusions: I

- From Summer'03 to Summer'05, peak luminosity has grown by factor 2.8 (40→120e30) and weekly integrated luminosity by factor 2.3 (7.2→16.7 pb-1/wk)
- Most important improvements (>10%) came from:

| | L_peak | L_int | |
|---|---|---|---|
| ➢ RR mixed shots | 25% | 11% | studies |
| ➢ Beta* change | 29% | 20% | studies |
| ➢ MI 2.5MHz/BLC | 13% | 9% | studies |
| ➢ Reliability/L-time | 19% | 36% | management |
| ➢ Tev Reshim/Align | 12% | 9% | shutdown |

  with additional detectable/recognizable contributions due to Tev octupoles, Tev precycle elimination, and Tev instability dampers

- Open question whether there was real emittance improvement in MI → TeV transfers after FY'04 shutdown

# Conclusions II

- (Depending on above) Operation of the Recycler in "mixed source" mode led to 6-11% increase of weekly integrated luminosity in FY'05
- (Un)surprisingly, comparable RR effects come from both smaller emittances of pbar bunches and from higher pbar intensity
- Increase of the running time (+28 hrs) after FY'03 gave one time gain of 36% in luminosity integral. Most of the extra time came from study time reduction (-16hrs), more reliable Tevatron (-8hrs), and shorter "Misc" time (-4 hrs).
- Later in FY'04 and FY'05, the time in collision slipped back –(8..10) hrs, due to worsened reliability (partly compensated by further reduction of study time)
- As expected, statistics shows anticorrelation btw "Store time" (hrs/wk) and "Study" time, and btw "Store" and "SetUp" time

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